Claims

1. Security module for encrypting a telephone conversation
   between one or more first telecommunication terminals
   (VoIP-C) in a packet-oriented data network (LAN) and one or
   more second telecommunication terminals (TDM-C) in an
   analog and/or digital telephone network (TDM), with data
   packets being transported in the packet-oriented network
   (LAN) by means of an encrypted transport protocol and the
   keys for the encrypted transport protocol being exchanged
   by means of a key exchange protocol, with the packet-
   oriented network (LAN) and the telephone network (TDM)
   being connected to one another via a gateway (G) and with
   the security module (SM) for a telephone conversation,
   being able to be connected into a connecting line at a
   first or second telecommunication terminal (VoIP-C;TDM-C),
   comprising:
   - a protocol processing unit which processes messages of
     the key exchange protocol as well as data packets
     transported by means of the encrypted transport
     protocol, when the security module (SM) for a telephone
     conversation is connected into a connecting line at a
     first or second telecommunication terminal (VoIP-C; TDM-
     C), with the protocol processing unit converting voice
     signals created at the first or second telecommunication
     terminal (VoIP-C; TDM-C) into data packets for transport
     via the encrypted transport protocol and converting data
     packets arriving at the security module which are
     transported via the encrypted transport protocol into
     voice signals;
   - a modem connection unit, which, in the event of the
     security module (SM) being connected in a connecting
     line at a second telecommunication terminal (TDM-C), for
     a telephone conversation, sets up a modem connection

between the second telecommunication terminal and the gateway (G) and/or a further second telecommunication terminal (TDM-C), with the data packets being transported via the modem connection by means of the encrypted transport protocol as well as messages of the key exchange protocol.

2. Security module in accordance with claim 1, with a PPP connection running over the modem connection, over which the data packets are transported by means of the encrypted transport protocol as well as messages of the key exchange protocol.

3. Security module in accordance with claim 1 or 2, with the encrypted transport protocol being SRTP (= Secure Real Time Protocol).

4. Security module in accordance with one of the previous claims, with the key exchange protocol being MIKEY (= Multimedia Internet Keying).

5. Security module in accordance with one of the previous claims, with the security module (SM) being embodied so that for a telephone conversation, messages of the key exchange protocol are transported via the SIP protocol (SIP = Session Initiation Protocol) and the protocol processing unit can process the SIP protocol.

6. Security module in accordance with one of the previous claims, in which the telephone network (TDM) is an ISDN network.

7. Security module in accordance with claim 6, in which the modem connection unit can set up a modem connection over the B-channel in the ISDN network.

8. Security module in accordance with one of the previous claims, in which the packet-oriented network is an IP-based data network, especially a LAN (LAN = Local Area Network).

9. Security module in accordance with one of the previous claims, in which the modem connection unit can set up a modem connection in accordance with the V90 and/or V92 standard.

10. Security module in accordance with one of the previous claims, which is used for telephones with a connecting cable between telephone and telephone handset, with the security module (SM) being embodied so that it is connected into the connection cable.